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Special Contributions.

[For THE HORTICULTURIST.]

The Lilac.

For Lawn and Border Planting, Massing and Grouping, Winter Forcing, etc. A List of Varieties.

BY GEORGE ELLWANGER, ROCHESTER, N. Y.

YOUR chat about Lilacs, in the January No. of THE HORTICULTURIST, reminds me of my promise, which I now fulfill. Although you have opened the subject handsomely, and said a good word in its favor, with your permission I will add my testimony to this universal favorite.

The Lilac, which in this country has been rather neglected by the landscape gardener, I consider among flowering shrubs one of the most showy and indispensable for decorative purposes.

In speaking of this charming flowering shrub, I do not mean simply the common purple and white, which, like the Pæonia rubra, justly finds a place in almost every yard, and that are exceedingly ornamental and attractive.

The Lilac has been very much improved by hybridization. Almost all shades have been produced, from white to dark purple, with flower spikes many times the sizes of the common varieties, and more brilliant and profuse.

Planted in masses on the lawn, or for back grounds, it is among the best materials for producing a beautiful and decided effect.

Imagine a clumb of *Rothomagensis* in one mass of reddish flowers; or the *Sinensis*, a shade darker; or the *Virginalis*, with the flowers pure white. In fact any intermediate shade can be selected from the large list of varieties, for planting in masses, or several shades may be intermixed where contrasts are desired.

The Chinese sorts attain a height of 12 to 15 feet. When symmetrically proportioned, and bent down with their weight of fragrant blossoms, they are indeed a charming sight. Planted as single bushes, or among mixed shrubbery, they are valuable and attractive.

The Persian Varieties are of more dwarfish growth than the Chinese, and can be employed advantageously in groups near walks where low-growing shrubs are required. The Lilac is also grown as a standard on a single stem, grafted on itself, the Privet or the Ash,

and in this form is a novelty on the lawn. All the varieties are perfectly hardy, succeeding in any soil.

For *winter blooming*, the Lilac is superb. It can be forced with but little trouble, so as to have it in bloom all winter.

In Paris, it is among the most esteemed of winter flowers, and is always accorded a prominent place in the show windows, from autumn until spring. In this country this interesting and, to the florist, important shrub for forcing, is still in its infancy. I know of only one house in Boston that has entered into it largely.

In addition to the list of varieties you have given, I would mention especially the following old as well as new, as worthy of general cultivation.

Tall-growing Varieties.—Chinese (*Sinensis*). This variety resembles the Persian in foliage and wood, and is one of the most vigorous of its class, often growing 12 to 15 feet high, and as many feet in diameter. Flowers of a reddish purple, very profuse, covering the entire shrub.

Gigantea.—This is a strong grower, with dark rich foliage; flower spikes very large, of a bluish purple. One of the best.

De Louvain.—A strong grower and profuse bloomer; flowers light purple, and very distinct. A fine variety.

Glory of Mt. Hope.—Flowers delicate deep red, shaded with violet; truss very large, distinct and fine.

Sanguinea.—Flowers deep red, shaded with violet; truss very large, A fine acquisition.

Washington.—Flowers very dark purple with a bluish shade; large and fine.

Alba grandiflora.—Very large, pure white trusses, the finest white.

Jasikia.—One of the most distinct species, with dark shining leaves and purple flowers. This variety flowers late, after all the others are gone; is scentless; will form a small tree.

Varieties of Dwarfish Growth, cut-leaved.—A variety of the Persian with delicate cut leaves; very distinct.

Dwarf (*nana*).—Flowers dark reddish purple; spikes very large and compact.

Persian Purple.—Flowers bright purple; foliage very small.

Persian White.—A variety of the preceding, with delicate white flowers shaded with purple.

Philemon.—Flowers purple lavender, in large spikes; a very pretty dwarf variety.

[For The Horticulturist.]

Pear Culture for Profit.

BY P. T. QUINN.

TEN or a dozen years' experience among pear trees by one who keeps his eyes open to what takes place around him, and his brain active to register the results, is, undoubtedly, the best way to lead to a successful career in growing pears for profit. Among the thousands who have planted pears on a large scale, during the last twenty years, there are few, indeed, in any part of the country, who have not made grave and expensive blunders from the lack of practical knowledge so essential in such undertakings. Such a condition of affairs cannot be looked upon as strange, for twenty-five years ago the practical information on pear culture was exceedingly limited, and like our varieties, most of it was imported from across the Atlantic, and then rehashed for the instruction of the American planters who followed the advice and reaped the rewards. Time and experience are the only agents to remedy such errors as most of us were led into, and the knowledge gained in this way has worked wonders among fruit growers within the past few years, exploding many of the fancy and pet theories of those who wrote on the subject and planted pear orchards in their mind's eye.

One of the most common mistakes beginners usually fall into is that of planting too many varieties on the start. Time is sure to demonstrate the folly of this course, but seldom in season to save the novice the outlay and loss accruing from such an error.

The first step should be to learn, in some way or another, what varieties of pears succeed best in the township or county where the orchard is to be planted. Then find out from the fruit dealer, in the nearest market, if such sorts are favorably known to consumers, for if

not, no matter how superior the quality of the fruit may be, nor how vigorous and fruitful the trees may prove, it will be found an unprofitable business. When these *two important* inquiries are satisfactorily settled, it is a safe rule to be governed by, say in an orchard of five hundred trees, not to plant less than one hundred trees of any one variety, and under no circumstances to exceed more than ten or a dozen kinds, no matter how extensive the orchard may be, if the object is to make money.

This brings the subject up to the point of the relative merits for *orchard* planting of dwarfs and standards. My practical experience for the past eighteen years, in growing pears for market, as well as my observations, during that time, both at home and abroad, has long since settled the question, very conclusively in my own mind, of the infinite superiority of standards over dwarfs for orchard planting. Heretofore in writing or speaking on this point, I have held to a single exception, and that was the Duchesse d'Angouleme, when planted as a dwarf, and deep enough to strike roots from its own body, yielded an equal number of specimens, and of a larger average size than standards of the same variety. Some years back I instituted an experiment in the orchard for the sole purpose of testing this matter, for my own satisfaction, and, with the results, I am now fully convinced that standard *Duchesse*, grown under the same kind of high culture as dwarfs, will bear and yield equally well, while the standard's trees will outgrow the dwarfs, at least a third in six or seven years, thus giving more surface to produce fruit. The early bearing of dwarfs, say in two or three years from the time of planting, instead of being an advantage, is, according to my experience, a serious misfortune, and it should be carefully avoided. It is short-sighted economy to allow pear trees, when planted for profit, to bear any fruit until six or seven years in place. By that time, and following a judicious system of pruning, with a few exceptions, standards can without difficulty be brought into bearing.

In our capricious climate, close planting and low heading are more important to ensure the health, vigor and fruitfulness of the trees than is generally supposed. Pear trees suffer most from strong winds when they are in full bearing, and the specimens nearly or quite grown, when the branches are weighing down with the burden of fruit. Fall trees, exposed to a September northeaster, the fruit is whipped off, and branches broken, while in orchards closely planted and low headed, each row of trees protects its nearest neighbor, and the danger is trifling, if any.

Ground that will produce a fair crop of corn, or, say, 150 bushels of Irish potatoes to the acre, will be found quite good enough to grow pears. On land of this character, properly prepared, the distance apart should not exceed sixteen feet in either direction, and in some exposed localities twelve by sixteen feet would be even more preferable. While the trees are young and not in bearing, corn, potatoes, or root crops can be grown to advantage between the rows, provided sufficient manure is added, annually, to keep the ground in good heart and up to a certain standard of fertility. It *will pay* to use fertilizers liberally among young growing pear trees. In fact it is all-important that during the wood-making period the trees be kept thrifty.

To save trouble and some expense in labor, young pear orchards are often sown down to grass, but seldom, if ever, with profitable results. At least this has been my experience, and up to the present time I don't know a single exception to the rule, so far as my personal observation extends, where the grass theory has been a success in either young or bearing pear orchards, and I have tested it faithfully in our own grounds.

In pear growing for profit, one will be woefully mistaken if he calculates to make a fortune in a few years. But where the orchard is under intelligent direction when the trees come into bearing, taking one year with another, it is within bounds to count on thirty per cent. profit on the capital invested. Of course, I could instance many cases where the returns were very much larger; but there are also many that fall far below the figures named.

The Greenhouse.

Greenhouse for April.

AFTER the long, severe winter we have passed through, it is more than probable that some plants have suffered either from too much fire heat, or from cold, if the heating apparatus was not of the best construction. In those gardens where one house is expected to grow all kinds of plants, it has been unusually difficult to manage the temperature to keep all the plants in fair condition, for it has often required all the fire heat the apparatus could supply to keep out frost; and although the temperature did not range high, yet the strong fire heat is very injurious to such plants as verbenas and pelargoniums; and under such circumstances, plants in flower do not retain their beauty nearly so long as when less fire heat is required to keep the necessary temperature. We frequently see the smallest quantity of pipes allowed when a greenhouse is built; but this is very mistaken economy, for independent of the extra care and attention required to keep enough heat in ordinary cold weather, the extra coal consumed would often pay for another row or two of pipes in one season, to say nothing of the failure of heat on the first extra cold night, which may spoil or give some of the best plants a check which a season's good cultivation will not recover; and as a rule, the poor appearance of the plants is generally referred to the gardener's want of skill and bad management. None of us are perfect in everything, but it is not pleasant to be blamed for faults entirely out of our control.

Last summer a Western florist tried to convince us that two rows of pipes gave more heat in a house than four, for the very simple reason that the boiler had less work to do, and made the two rows hotter. That we can naturally enough understand, but our not very limited experience has taught us that a flue or pipe too hot to be handled is not only undesirable, but very injurious in a greenhouse. We would rather put in six pipes than reduce to two, and see that there was a boiler powerful enough to heat properly the extra pipes on the coldest night which had been known in that district; for although every winter the full power might not be required, the very cold nights are sure to come occasionally, when the comfort of sufficient heating power is very satisfactory.

A grower of a general collection of stove plants, including many valuable specimens, informed us that he could not keep a temperature of more than forty degrees in his house this winter, with the hardest fires he could make. This would do well enough for verbenas and geraniums, but is very injurious to many delicate tropical plants. In fact, if the plants did not receive very careful treatment previously in preparation for such a low temperature, many delicate species would probably never recover, although they might not die outright at once. It must not be understood by this that we advocate a very high night temperature in winter; on the contrary, we give many plants much lower temperature than is usual by general cultivators. But we have at all times advocated plenty of heating power, so that, when a few cold days come, it is possible to obtain a fair average heat without burning the house down, or making the water boil in the pipes.

Orchids should now be rooting freely, and many species be also making a rapid growth. The plants will require more heat and moisture, both to the roots and also in the atmosphere. A good syringing over the foliage must be given on bright days, being careful to use water the same temperature as the house, and do not allow the water to lodge in the young growth; it will cause decay. Shade from bright sun, but do not use a very thick shade; it weakens the plants, and they do not flower so well. We prefer the sacrifice of some color in the foliage to a very green watery growth.

Dendrobiums which have done flowering should now be repotted, if necessary, or surfaced, if potting is not required. Some of the late *nobiles* will still be in full beauty, if kept cool. These can be seen to after flowering.

A good, brisk, moist heat is necessary, if fine, strong shoots are expected. After the growth is finished, these plants will do in any greenhouse, if kept dry. This latter treatment does not apply to the evergreen species from hotter districts, although they will all do in a moderate heat during the winter months, if little water is given. The pendulous species must have larger baskets, if necessary, or be surfaced, if a shift is not required. Some good living spagnum moss is best for surfacing these; it is clean, and the plants root in it freely.

Cattleyas, of the Mossaii varieties, will be now commencing to flower. Care must be taken, in syringing and watering, not to wet the flowers, or to allow water in young shoots. A careless hand with the water-can will soon do a great deal of mischief at this season, and the trouble is, it cannot be detected until the damage is done. Any plants of the Trianæ section which did not receive attention when the other species were potted, should be attended to at once. This species, and also Schilleriana, are very impatient of stagnant moisture at the roots. It induces decay, so must be guarded against by careful watering.

Lycaste Skinnerii will now be growing and flowering freely. These plants require plenty of water and less shade than many other orchids; but under glass, few plants will stand the full sun in this climate. This is one of the best orchids grown. It usually flowers more than once a year, and the flowers last from six weeks to three months in beauty.

Lælia anceps and superbiens will now be about out of flower, and should be rooting freely and commencing to grow. It is necessary to obtain an early growth from superbiens, for its large shoots require a long season to mature, if strong flower stems are expected. It may be noted that this species will not flower when the plants are small. It requires large, strong pseudo-bulbs to produce its immense flower shoots. The same rule also applies to Schomburghias, a class of orchids which finds little favor in Europe, from their shy blooming qualities. In that case there are two reasons for these plants not flowering: they do not get sun enough in their dull climate, and seldom obtain water enough. In this country there is no difficulty about their blooming when the plant is strong enough; and we consider *undulata* a very desirable plant, with thirty or forty of its curious flowers on a spike.

Cypripedium insigne, if not already potted, and the plants require larger pots or pans, should be seen to at once. These plants being terrestrial, do not require raising above the level of the pot or pan, and about one-third full is enough drainage. A heavier soil is also best; it holds the moisture for a greater length of time, and obtains stronger and better foliage and flowers. We use half rough peat and half loam, with a little dry, decayed manure, and a good sprinkling of coarse white sand. This, with plenty of water when growing, and a moderate supply when the growing season is over, will grow these plants well.

Azaleas will now require abundance of water, if fine flowers and strong growth are expected. If any plants have been overlooked and allowed to get very dry, it is advisable to place them to soak in a tub of water, for it is almost impossible to get these plants thoroughly moist, if allowed to become very dry, by any other plan. Give the growing plants a good, warm, light place, and syringe the foliage well on bright days. Plants in flower must be kept as cool as possible, and shaded from bright sun, which not only spoils the color of the flowers, but reduces the time the bloom should last. If necessary to repot the early-flowered plants, it should be done at once, or the pots will not be well filled with roots this season, and the next year flowers will be few.

Camellias, with the exception of candidissima, will be generally out of flower, and should be making a rapid growth. If the blooming season has not been early enough, now is the time to force them forward by extra heat. This plant will not bear much forcing in the autumn. If strong heat is given them, the flowers will be small, and many of the buds drop; but at this season, extra heat will do no harm, and the earlier the growth is

complete and buds set, the earlier will the flowers open in the fall. The plants which are planted in the open border should have the soil carefully loosened with a fork, without disturbing the roots, and if necessary, any sour surface soil removed, and replaced with fresh. This allows free passage for the water, of which the plants require a large quantity at this season. If any plants are found dry, give them several good soakings, for strong growth must not be expected if the plants are dry at the roots. The plants must be shaded from bright sun, which is very injurious to the young leaves. A thin coat of whitewash over the glass is as good as anything; it is easily removed, if necessary.

Chinese Primulas will be generally out of flower by this time, and will require less water, and must be placed in a cool, shaded position, but not where they will be forgotten, for this plant will not do much if neglected.

Primula japonica will now be in flower, and will require a large quantity of water, and fumigating with tobacco occasionally, for green fly is often troublesome at this season.

Cyclamens will now be in full beauty, and must have moderate shade, and be kept as cool as possible, with abundance of water at the roots. Mark the colors and best varieties for saving seed.

Zonale and other geraniums will now be in full beauty in the greenhouse. Many varieties are very fine for this purpose, although, from not being adapted to our hot summers, of no use for planting in the open ground. A few cuttings rooted now will make good plants for flowering in pots in the fall.

Pelargoniums will be now showing bloom, and require more water, with an occasional watering with liquid manure. Give as much air as possible, to keep the plants dwarf and healthy, with an occasional fumigating to prevent green fly.

Cannas and Caladiums for outside decoration, if not already done, should be potted at once and placed in a warm position; but do not give them strong heat, for unless well hardened before planting out, the plants suffer much, and do not start so well.

Castor Oil Plants.—A few seeds should now be sown to obtain good plants for planting out at the end of May.

Coleus must be propagated for the above purpose. A few distinct varieties are better than a large number of sorts. These plants become strong and well established from cuttings in a very short time, at this season.

Propagating in general should be now finished of those plants required for decorating the flower garden. But if, after examining the stock, anything is found to be short, no time must be lost in increasing the stock, or the plants will be small and weak, and after planting out, there will be many blanks and failures. Remove all hardy forced plants from the greenhouse as soon as their floral beauty is past, to make room for other plants, and also to keep a neat and cheerful appearance. Such plants can be placed in a cold frame, if worth keeping, or be thrown away at once.

Marantas must be now potted and divided, if necessary. With many of the varieties it is not necessary to grow large specimens to obtain the full beauty of the leaves, while others do not develop their principal colors until of large size. When room is limited, and only a moderate heat at command, a few of the best small growers can be nicely managed in a glazed frame inside the greenhouse. Such a frame is also useful for raising a few choice seeds or cuttings, and growing a few choice young ferns and selaginellas.

Ferns.—Any plants requiring fresh potting, which had not commenced to grow when the general stock was done, should be seen to at once; for if the roots are much disturbed after this time, the young growth is sure to suffer. See that no insects get established. Green fly is sometimes troublesome on young growth of adiantums, and will deform the leaves if not destroyed. The best way is to lay the plant on its side, and give a gentle syringing with weak tobacco water; for these plants are very impatient of smoke, and are easily injured with any strong mixture, and continual wetting the foliage turns it brown and unsightly. These plants must be shaded

from bright sun, and the air kept as moist as possible; but ventilation is very necessary, if draughts are prevented blowing on the plants.

Hothouse Plants generally will now be growing freely, and require much more water, both at the roots and also over the foliage. But do not keep a close, confined atmosphere; this only induces a thin, weak growth, and with flowering plants a want of flowers. Plants generally will require shade from bright sun, with the exception of such things as Crotons, Allamandas, Pandanus and variegated Pineapples; but care must be taken that the glass is not of inferior quality, or the foliage will be covered with brown spots, from the glass acting as a lens and burning the leaves. Many species of palms make a much finer growth under partial shade from the sun, and some species, such as Geonoma pumila, are injured with the sun in February, and would be completely spoiled with a short exposure to the bright summer sun; but such plants as Achmeas and Tillandsias will stand as much sun as the Pineapple. There are but few orchids which do not suffer from full exposure to summer sun in this climate, under glass, even though growing in full sun in the tropics.

The proposed new conservatory in Central Park is not to be built, according to the New York *Times*. The reason given for abandoning the project is, that it will not only cost a large sum to build, but also a large expense annually to keep it up after it is built. Both these reasons are no doubt perfectly true, and no doubt the times are bad and money scarce, and no doubt also there has been money enough pocketed by dishonest men in office to cover the entire park with glass, so there is not money enough left in the city treasury to build and keep up one moderate-sized house. It will be no doubt best to wait. The future managers may have judgment enough to place the sight in a more reasonable place, and be satisfied with a single story building.

It has also been discovered that a large expense has been incurred in preparing plants for the proposed conservatory. This will be discontinued, and the money and energy spent in plants for the decoration of the grounds. This is a capital plan, if carried out, for lately there has been nothing attempted in the way of summer flowers, except a few plants at Mount St. Vincent, a part of the park ninety-nine out of every hundred visitors never see. Why cannot some fine masses of various handsome herbaceous plants, and also subtropical foliage plants in groups, not to interfere with the open turf or trees, but only to add to the permanent beauty of the place? This might be done at a comparatively moderate expense, and add much to the beauty of the park, if this expense is not more than the treasury can afford.

Perhaps, when New York views the fine conservatory built by Philadelphia, it will be considered necessary to do likewise; or it may be possible they are only waiting to copy the plans of the celebrated builder and the National Horticultural Society in the latter city.

White Carnations

That Sometimes Show Color in their Flowers.

BY A. VEITCH.

THE fact that some of the best varieties of White Carnations frequently produce flowers with more or less of color, is invested with considerable interest and importance to those who esteem them chiefly for their purity. In endeavoring to account for such freaks, and at the same time suggest how to prevent them, it may be as well to state first, that as petals and leaves are in morphological accord, what is characteristic of the one set of organs, is to some extent true of the other.

As regards leaves, we know from the investigations of Mr. H. C. Sorby and others, that no less than ten different-colored principles have been obtained from them, besides chlorophyl; in some cases one or other pure and simple, in others two or more combined, but in all so proportioned as to give to the leaves of every species of plant its own peculiar and distinctive shade of color. Chlorophyl most largely predominates, and hence the prevailing color is green. It is greatest in excess when leaves attain their full size, and be-

fore they begin to fade; but even then, should adverse influences interpose to enfeeble their energies, this grateful color is suddenly dimmed, but only the more clearly to reveal whatever other coloring matters they may contain. This is still more strikingly displayed in the fall, when those tints shine out in all their variety and beauty.

In addition to these changes and their effects, there is yet another which has been aptly called by Mr. Sorby "the temporary fading of some leaves when exposed to the sun." He says "his attention was first called to a diurnal change in the color of a kind of moss commonly grown in hot-houses, and subsequently to a similar change in a tropical species of Maidenhair fern. In both cases the color of the fronds, after the darkness of night, was deep green, but after exposure to the bright sun of day, it was a far paler and whiter green." The true explanation of this, he seems to think, is, that "exposure to bright light causes both granular and amorphous chlorophyl to collect together at the sides of the cells, instead of being more evenly distributed. The result of this is, that a much larger relative proportion of white light is reflected, and the leaves or fronds appear of a paler and whiter green."

Accepting this view of what takes place in leaves or fronds as correct, there seems no reason to doubt but that similar changes take place in many kinds of flowers, for they, also, show most color when grown partially in the shade. This is well stated by "Ruralist," in HORTICULTURIST for December, 1874, when speaking of Phlox Isabellina. "This species," he says, "possesses peculiarities of its own; it delights in the morning sun, and noon and afternoon shade. The petals of those that had the morning sun and afternoon shade were thicker, larger, tougher, and more of deep yellow than those fully exposed to sunlight all the day. The difference, as stated in this case, and in leaves or fronds under similar conditions, is, that in the leaves chlorophyl is that upon which a change is wrought, and zanthophyl, or other coloring matter belonging to this group, in the flowers. And besides, we know that colored compounds in leaves, when more and more developed under the influence of light, are more and more easily decomposed by the action of light and air, when no longer parts of living plants, but dissolved out from them."

It is not asserted that coloring matters exist in all flowers that are white; but if not present in some, they can, under certain conditions, be introduced; and if negatively present, they only require the action of some agent —mechanical or chemical—to be revealed. But as this can only be settled by one or other of the modern methods of analysis, we hand it over to those "whom it may concern," and all the more willingly, as it is with facts rather than with hypotheses we have to deal.

Some of the facts are these: A carnation like the one known to florists under the name of Louise Zeller, is white at all times and under every mode of treatment, which seems to indicate that the cells of the petals contain a purely neutral juice, and therefore white light only can be reflected. But there are others not so constituted, for they sometimes show color in their flowers. Notable among these is President Degraw, a variety so well known and so much esteemed, that notwithstanding this drawback, it is more generally grown than any other. It is in the winter season that any tendency to sport is manifested, and this helps us to the conclusion that want of light has much to do in causing it so to act. This view receives still further support from the fact that vegetable coloring principles can be "decomposed by light in the same manner as when dissolved out from them by alcohol or other solvents." From this the cultivator can see the propriety of keeping this variety of carnation, as well as others which show similar tendencies, where they can receive the greatest amount of light possible during the winter months. By strict attention to this particular, and otherwise treating the plants so as to maintain their constructive energies in full play, he will be able to keep up the flowers, as regards whiteness, to the full standard of his wishes.

New Haven, Conn.

Garden Gossip.

Suggestive Notes.

Double Geraniums.—It seems a very few years since the first of this class was introduced, and now it has its full share of novelties every season, in common with the older sections of florists' flowers. And we are not limited to colors either, for the range of hues extends over the crimsons, pinks, salmons, whites (or nearly so), and mingled tints.

One whose business it is to introduce all these newer introductions, and hence study their several characters, cannot but note the marked and rapid improvements that annually take place. In the *Jewel*, which is a very dwarf, compact-growing plant, we think we shall have an acquisition for bedding superior to anything of its character. In England, last season, which suffered from drought, this charming variety made a grand show, the round trusses of deep crimson, perfectly double flowers standing up well above the dense mass of bright green foliage, in a very attractive manner. *Asa Gray*, we are pleased to add, bedded beautifully in some sections of this country the past summer, and if it does equally well everywhere, we can thus have a new feature to add to our grounds.

But judging from the reports received from abroad, we are to have a new double variety, or rather semi-double—for it is not quite full—which will eclipse in size any of the varieties in existence. Mr. Laxton, the originator of so many fine peas, has raised a new geranium, whose individual flowers measure upwards of two inches in diameter; color bright scarlet. The truss is said to be of enormous size, and the plant a thrifty grower. It was awarded a first-class certificate by the Royal Horticultural Society of England, and has been named *Emily Laxton*.

Mr. Laxton has also originated two others, which are said to be unusually fine.

A Good Vegetable Garden should be an attractive feature in all well regulated country homes, and yet how often is it the very opposite of neatness and productiveness! From the earliest times, in some localities, this important spot has been turned over to the female portion of the household with true sovereign contempt by the lord and master thereof—not from indolence, we presume, as many a "forehanded" farmer is guilty of this neglect, as well as the thriftless countryman who tends to no part of his farm property. We repeat, it pays to cultivate the vegetable garden or "truck-patch" carefully and skillfully, as it does any branch of out-door country work; and many a man's character can be read aright by simply glancing over the paling that encircles his garden. As soon as the ground is settled in spring, it should be covered with rich, *well decomposed* manure or compost. We say well decomposed, because it is a mistaken idea to apply manure from the stables without first undergoing fermentation at least. The fertilizing material should be ploughed or dug in deeply, but not until the soil has become reasonably dry and mellow, as here is a point upon which many gardeners make a great mistake. Soil once cultivated whilst wet in early spring, does not recover from the effects throughout the season, but remains more or less cloddy and rough. Every one should have a side-hill slope, facing south, for early vegetables. Here may be grown a few extra early peas, beets, radishes, lettuce, onions, etc., as well as a few rows of Early Rose potatoes. Such a convenience pays well, as a few days is a great blessing in the way of nice, fresh dishes of green vegetables in advance of the usual season. If the soil should be light and sandy, so much the better, but it must be thrown up in terraces to prevent washing by the rains. This location will not answer for the later crops, as the hot, dry weather of midsummer will in all probability burn, or at last seriously injure them. At all events it pays to have plenty of good vegetables at all seasons, and to obtain this, the owner must pay constant attention to his garden, as he would to his fields. The former is equally as important as the other, and requires labor as well to reap a full measure of success.

Neglected Magnolias.—Every lover of

trees is willing to acknowledge that in this genus we have some of the most beautiful species and varieties to be found in the flora of the world; and yet, while we have been assiduously cultivating the Cucumber Tree (*M. acuminata*) and the Chinese White (*M. conspicua*), as well as some of the choicer hybrids, such as *Soulangiana speciosa*, *Alexandrina*, etc., there still remain several beautiful species that are well calculated to adorn our lawns and pleasure grounds. Chief among this latter class is the Ear-leaved Umbrella Tree (*M. Fraseri*), known to many as the *M. auriculata*, a tree of medium or rather large size, of regular outline, with exceedingly handsome large foliage and beautiful flowers. In the Middle States it is never injured by the winter, and we know not of an objection that can be raised against it. It is quite difficult to increase by means of grafting and budding, but the seeds germinate equally as free as those of its cotemporaries.

The *Yellow Cucumber Tree* (*M. cordata*), although a native of the Southern States, succeeds perfectly well as far north as Boston, and is emphatically a charming tree. The foliage is of an oval outline, slightly heart-shaped, downy beneath, and of medium size. The flowers are four or five inches in diameter, of a rich golden yellow color, and are produced occasionally during the summer and autumn. It never forms a tree of large size, but the outline is regularly globose, and more compact than many of the other species.

The Umbrella Tree (*M. umbrella*), usually termed *M. tripetela*, is another small-sized tree with very large foliage. The flowers in this are rather attractive, being large, creamy white and distinct. It is entirely hardy, readily reproduced, and forms a fine specimen for grounds of limited size.

The lovely little Sweet Bay (*M. glauca*) should receive more attention, as the exquisite fragrance of its flowers renders it invaluable for small places, at least. The Great-leaved magnolia (*M. macrophylla*), wherever it will stand, makes a noble specimen, as the leaves are frequently three feet in length.

Summer-Flowering Bulbs.—Not a few florists commit the error of scattering these singly here and there, over the surface of a large bed of mixed flowers, when no class of plants makes a finer show in masses than the tuberose, gladiolus and tiger-flower, each in a separate bed, so that nothing may detract from their beauty. The soil should be light, moderately rich and deep, and in planting, the bulb should be protected by surrounding it with pure sand. We have seen groups, composed of three or more circles, each set with different varieties of gladiolus or tiger-flower, that made an unusually attractive show. Lilies started in pots, under glass, especially the *L. auratum*, when massed in a small bed on the lawn, always show to better advantage than if scattered through other plants.

As the plants increase in height, they will need supports, and this must not be neglected until they sway about in the wind, and become loosened from the soil. A neat stake, painted green, may be procured from any seedsman, and the style with white points has this advantage, that each variety of plant may be carefully labeled, using a hard black pencil on the white surface.

Mulching has been recommended for bulbs; this, however, is a dangerous practice in the hands of an unskilled gardener, as bulbs are easily rotted, or badly injured by excessive moisture. The only method to be used is scattering over the surface of the bed a very thin coat of old hot-bed manure or light rich compost. This, while enriching the soil, has a tendency to promote moisture sufficient for healthy growth.

Beautiful Shrubs.—There seems to be a prevalent opinion that azaleas require shade, as well as peaty soil, to insure health. That this is a great mistake, the hundreds of fine specimens in various parts of the country fully testify. Any good turfy sod, chopped fine, and, if clayey, drained, will answer. They do prefer a light porous soil, with a good mulching of leaves to keep the roots cool and moist, and if partially shaded, none the worse; but they will thrive in the clear open sun in a satisfactory manner without fear of failure, if the proper conditions at the root be observed.

In the whole range of flowering shrubs there is nothing that will make a more gaudy show than a bed of the finer hybrids of Belgian azaleas. Of every conceiveable color excepting blue, tinted, striped, mottled, and with even double flowers, one cannot readily imagine where any improvement can possibly be made.

There is a very pretty little species, by name *A. amœna*, which has proven very satisfactory in the open ground as well as for pot culture. It forces well in the atmosphere of a room, although rather dry for perfect health.

A Useful Book.—We have received the prospectus of a new work about to be published in London, entitled "A monograph of the genus Lilium," by Henry J. Elwes, F.Z.S., F.L.S., illustrated by W. Hood Fitch, F.L.S.

The author announces that he is to have the valuable aid of such excellent authorities as Wilson, Leichtlin and Baker, names familiar to all lovers of the lily family; and the illustrations will be copies of the famous set of oil paintings now in the possession of Herr Max Leichtlin, of Baden-Baden, and others. Mr. Baker, of the Royal Herbarium, Kew, England, has carefully elaborated this genus, and carefully described all the known species in the various publications during the past few years, so that we may reasonably expect a splendid, as well as a very valuable, work. Wood cuts and colored drawings of the bulbs, seed-pods, etc., will be added to illustrate the more technical descriptions, and the scientific accuracy of the same may be relied on.

The work will be completed in six parts, each containing a large engraving reproduced from a photograph of the scenery of the countries where lilies are most abundantly found.

The Lawn.—As soon as the frost is entirely out, and the soil dries somewhat, it is a good idea to start the roller to work. There is no better time to level all the little inequalities of the surface than at this season. If manure has been scattered over the turf last autumn, the coarser portions must now be raked off, and plaster (calcined) sown over the surface thinly. Pure guano and bone dust are excellent fertilizers for grass, and an application of one or both shows plainly in the increased intensity of color of the crop. Some will not apply fertilizing material at all, giving as a reason that the grass grows fast enough. True, but that is not the only feature that we should endeavor to produce, we want a thick, dark green turf, and we must manure to get it.

Early Bulbs.—Be careful to clear off the covering from beds of tulips, crocuses, hyacinths, etc., a small portion at a time. If taken off at once they may suffer, and if allowed to remain on too long it weakens the plant, drawing it up yellow and sickly-looking. Besides, one longs to give the rough-looking beds a neat appearance in spring, and this is about the first stroke of gardening that requires attention. We pity the dweller in the country who has no early-blooming flowers to keep pace with the bright spring days.

Planting Cucumbers.—An improved way to plant cucumbers is to plant the seeds as close together in the hill as in ordinary planting. If short of ground, make the hills from two to three feet apart, drive six or more stakes or laths, four or five feet long, close around the plants, letting the top ends flare out. Tie common twine around the stakes, from one to the other, to hold the vines as they grow up. I find this way of training the vines upward much better than letting them run on the ground, as not much room is required, and it is much easier picking the fruit. —*California Farmer.*

All Saints Cherry (*Cerasus semperflorens*).—This is a valuable, ornamental, low tree, drooping gracefully, especially when old, and producing singly numbers of brilliantly-colored fruits on long stalks; also drooping elegantly from the branches. It is a capital lawn or pleasure-ground tree, and grows from 12 to 28 feet high. It derives its botanical name from flowering several times during the summer.—*Garden.*

A Fine White Rose.—"Madam Plantier" is one of the best of the new white roses. It is a profuse bloomer, has fine foliage, and the plant is represented as being as hardy as a common brier.

The Flower Garden.

Sowing Flower Seeds.

BY MYSTIC.

THIS article is written for the benefit of amateur gardeners, who constitute most of the readers of THE HORTICULTURIST.

The greater part of the flower seeds sown by amateurs never "come up." What is the reason? The seeds are not good, says the sower; the seeds are not properly sown, says the seller. Which is correct? It is too true that worthless seeds are sometimes knowingly sold by unprincipled seedsmen, either *en masse* or mixed with good ones.

A rich friable loam, neither dry nor very wet, is the best soil for a flower garden. Work the soil over and over until it is thoroughly broken and free from lumps—following the spade or fork with a rake. Deep cultivation and a sunny spot are requisite for the highest success of most plants. Unsuitable soils may be converted into congenial ones. If the soil is clayey, heavy or cold, mix with it sand and thoroughly-rotted stable manure. If it is sandy or too light, work in pulverized clay, swamp muck properly prepared, decomposed leaves or other vegetable matter from the compost heap, plaster and old cow manure. The soil, if not already warm, should be dug up and warmed by the sun a few days before sowing.

When is the proper time to sow flower seeds in the open ground? It cannot be determined by the calendar. The character of the plants, the advance of the season and condition of the ground must decide. For tender and half-hardy plants, the season should be so far advanced as to have the soil very perceptibly warmed by the sun and free from late frosts. The seeds of hardier plants may be sown without injury somewhat earlier. It is better to sow a month late than one day too early. Avoid sowing when the surface of the soil is muddy or very wet.

The proper depth for sowing seeds depends upon the character of the seeds and the degree of warmth and moisture of the soil. Two conditions of the soil are absolutely necessary for germination—warmth and moisture. Therefore, sow deep enough to keep the seed moist, and near enough to the surface to keep it warm. The depth must vary with the conditions. No uniform depth from an eighth to a half of an inch, according to the species (which would be proper in favorable conditions), can safely be adopted in all cases. If the soil is naturally cold and wet, sow (especially fine seeds) close to the surface; if light and dry, much deeper. If you sow deep in cold, wet soil, the seeds rot; if close to the surface in dry soil, the seeds will not germinate. If your land is too heavy and cold, scoop out the spots for sowing, and fill in with sandy loam or light soil. Be careful to cover with pulverized earth free from pebbles. In covering, use your fingers, without gloves, by which you can detect any improper substance. Seeds should lie below—fine seeds only just below—the line of moisture; and the line of moisture should continue over the seeds until they sprout and the plants become well established. If a seed sprouts, or is thoroughly swelled, and then becomes dry, its vitality is gone—the plant is destroyed in embryo. This is the prevailing cause of failure in dry soil, even with persons of considerable experience. Novices almost invariably sow too deep, under all conditions. Avoid the great error of sowing too thick; and if the plants should come up too thick, thin out immediately, before they become spindling and constitutionally weak. After sowing in light or dry soil, press down the surface firmly; if the soil is *very* light and dry, press it down about an inch, using the back of a hoe to ad vantage.

If there is danger of the earth drying down to the seeds (as there generally is in light soils and sunny weather), keep the surface moist by artificial means. Daily, and oftener if necessary, use the watering pot with a fine rose, or sprinkle the water with your hand in small drops. Water in the middle of the forenoon, but not in the evening or towards sunset as you would plants in hot, dry weather. Warm soft water is best. If cold water is used, ap-

ply it in exceedingly small quantities, at short intervals of time, until your beds are sufficiently wet. Much cold water, poured on at once, will prove injurious, if not fatal, to vegetation. Even young plants of hardy species may be killed by a large quantity of very cold water.

To prevent the surface of the ground from becoming too dry, cover it, until the plants are up, with brush, brown paper confined at the edges, or boards resting on bricks, or sticks driven into the ground. Young, delicate plants may thus be shaded to advantage during the scorching heat of the midday sun. Shading through the whole day will make them weakly.

Medford, Mass.

Roses.

Their Cultivation, Varieties, Etc.

By JAMES PENTLAND, Baltimore, Md. Read before Maryland Horticultural Society.

"Proud be the rose, with rains and dews her head impearling."

VERY few persons know how to cultivate a rose in order to bring forth all the latent beauty contained in the flower. Many are content, when they buy a rose from those who have them to sell, to take it home, dig a small hole in the ground in their garden, put it therein (I cannot call it planting), and leave it to take care of itself; and when they come to look for flowers, find none. And no wonder! It will not stand such treatment, but will wither and die, and then the poor gardener who sold it comes in for the blame.

Now this is all wrong. There is not a flower that grows that requires kinder treatment than the rose, and there is none more deserving, or that will better repay good cultivation, either in a commercial point of view, or for the gratification of two of the five senses, namely the sight and smell.

To grow a rose to perfection, you must, in the first place, find the proper soil in which it delights, which is a stiff, loamy, strong virgin soil—yes, even a clay soil, provided it is well drained, and deep and cool, so that the roots can find their way down into a cool place, in order to get away from the influence of our burning summer suns. In the next place, you must see to it that the soil is properly enriched, for, depend upon it, you will not see a rose in perfection in a poor soil; for, like the grape-vine, it is a very gross feeder. Therefore make your rose ground very rich and deep. Use any well-rotted manure for young plants, and plenty of it; and as your roses gain strength, you can give them almost any kind of manure, even to fresh night-soil. Watering with liquid manure occasionally you will find a great help.

In order to have fine flowers, you will find pruning a very important point in the cultivation, and this part, I am sorry to say, is but very poorly understood by most cultivators, for how often do you see a rose plant snubbed off at its extremity, in order to give the bush a nice, round head of very slender shoots, upon which you see a small, weak flower, not worthy of being called a flower, looking as if it was ashamed of itself (and I don't wonder that it is), instead of bringing out all the beauty of which it is capable.

To have fine, large and beautiful flowers, you must have plenty of good, healthy root-power, and not so much wood; and to obtain this, you must have the conditions previously mentioned. If your rose plant has had those conditions, you will have good, strong, healthy growth from the ground; and in the fall, or very early in the spring, when danger of severe frost is over (I prefer fall pruning, for by pruning then, you make the plant more capable of withstanding our severe frosts, because the late growths made by the rose are too tender and sappy to withstand our severe climate), commence pruning by cutting out all the old wood of the previous year, or at least all the wood of that year until you reach the new and strong wood of this, if the growth has been made upon any of it, as it very frequently will be, unless care has been used while growing. After you have cut out all of the old growth, then commence and reduce the new growth to three or four or more buds, according to the strength of your growth. Strong growing varieties may have more wood left upon them than the weaker growing varieties. If you

follow out these instructions, my word for it, you need not be ashamed of your rose flowers. The remark has often been made to me in the month of June, when the rose is in its best estate, by persons visiting my place: "How is it that we don't have as fine flowers upon our rose bushes as yours are? Mine are larger bushes than yours, and of the same kinds." And the only answer that I could give them was: "They are not properly pruned." "Why," they would reply, "a gardener pruned them, and he ought to know." What a comment upon gardeners! Yes, he ought to know, and a good gardener does know, but the fact is, he is not always allowed to do as he knows it should be done, for many persons are so afraid of seeing their pets cut down too close, supposing it will kill them; and again, many want large bushes, which they can easily obtain, but it must always be at the expense of the flowers; whilst others again desire quantity, and not quality. To all such I must say, "Don't blame your roses for not displaying the full beauty of which they are capable." I shall close this portion of my subject by saying in brief, if you want fine flowers, give your plants plenty of roots and short tops. You can get the former by rich soil and good cultivation, and the knife and good judgment will do the rest.

I now approach a very delicate part of my subject, that is, the best varieties to cultivate.

Now it will altogether depend upon what you want in a rose, before I proceed to enumerate the varieties. Do you want a rose of the most exquisite form, color, smell, strong growth and perfect hardiness, that will only give you such flowers once in the year, or at the most twice?

Then I will have to recommend you to grow the (so-called) Hybrid Perpetuals, which name, I think, is a misnomer. True, they are hybrids, but if the *perpetual* was left out of most of them, it would be better, I think. Do you want a rose tolerably hardy, not too rank a grower, and one that has not much fragrance, but of beautiful form and color, and when in a healthy condition, one that you can always expect to find a flower upon? Then I will commend you to the Bourbon class. If you desire a strong growth, with great clusters of sweet flowers blooming upon the ends of long shoots, you must grow the Noisettes. But if you want flowers to cut for bouquets, for show, for decorations, and for useful purposes generally, and such that you are not afraid to cut and slash at as much as you desire, then you must grow the Bengals or Chinese, as they are called, and in this class there are some beautiful varieties.

But if you want a rose in which you can feel a real enjoyment in beholding its delicately unfolding petals, in inhaling its most exquisite fragrance, peculiar to itself alone, observe its delicate habit of growth, and its constant bloom; whose colors, so delicate, look as if the breath of man would soil them, then you must grow the queen of them all, and it is the variety the ladies (God bless them!) love the best. I suppose the reason they so love them is, because, like themselves, they are so extremely frail, delicate, sweet and lovable, and cannot bear the rough usage that their more robust brothers just mentioned can. These are the Teas, so called, owing to their flowers having the rich aroma of fresh tea.

There are many other varieties cultivated, such as Damask roses, Banksian roses, hardy climbing roses, Multiflora roses, Macartney roses, climbers also, and of this class I may mention the Microphylla, Maria Leonida, Mannetti and kindred sorts. There are not many of this class, however, and the two first named are the best. The Mannetti is much used for budding upon, and makes a fine stock rose, superior to the French dog rose used for the same purpose.

There is one other in connection with the climbing roses that I must not forget to mention, because of its very great beauty, extreme hardiness and rampant growth—growing, as I have seen it do, in one season as much as twenty feet, and also for the further quality, or good fortune, as I should rather say, of having been originated in our very midst. I allude to the Prairie roses, which, for the covering of naked walls and trellises, have no superiors. They were originated by that dis-

tinguished horticulturist whose untimely death we all have deplored. I allude to Samuel Feast, Sr., brother of the Nestor of horticulture in this city, the honored Corresponding Secretary of this society, John Feast, Esq.

The Prairie rose, I think, was originated from seeds of the Michigan rose, either gathered by or brought to Mr. Feast, who planted them. There are two distinct colors, one a beautiful pink, and the other a clear, waxy white. The pink variety is called Prairie Queen, and the other most fitly named Belle of Baltimore. There is one other, called the King of Prairies, a later production by the same grower, a most beautiful flower, not quite so double as the two former, but possessing one fine quality the others lack, namely, fragrance. There have never been any roses sent out that have obtained a wider or more deserved celebrity than those roses, for from Maine to California, in this country, and all over the continent they have been sent, which certainly speaks well for Baltimore and her productions.

Brier Roses or Sweet Briers.—Of this class is one of the finest yellow roses in cultivation, namely, the Persian yellow. Then there is the old Harrisonia, older, perhaps, than I can remember. Celestial Blush Sweet Brier is a variety very pretty and double and sweet, but not much known. The last, though by no means the least, are the Moss roses, some of which are the most beautiful roses grown. Some of them are *called* perpetuals, but if there are such, I must confess I never saw them, the nearest approach to it being the one called Salet, which during the summer blooms occasionally; but I doubt very much if it is a moss rose in the true sense, the buds at best being but slightly mossed. But the real gems of these roses (and gems of beauty they are without question) are the following named varieties: Cristata (or crested). This fine old variety I have placed at the head of the list, for in form of flower, delicacy of color (a peachy pink), and size, I think it excels all of this class; and when in bud, the beautiful calyx, having the appearance of a crest (not properly a moss covering), is extremely beautiful.

The next most beautiful, in my judgment, is the Ætna, which is quite mossy. The buds are large, and just before expanding have the appearance of a crown; it is also a very vigorous grower. Then comes the Luxembourg, or Crimson Moss; Wm. Lobb, a most vigorous grower and fine bloomer, of a dark purplish crimson; Gloire des Mausses, pale rose, outer petals whitish, large and very distinct, and robust grower; Princess Adelaide, pale rose, very large, mossy, and a strong grower, and one that forms a beautiful pillar; White Moss, or White Perpetual (so-called), is most beautiful in bud; it is a very old rose, and one of the first moss roses I ever knew, and has been grown so much that I have sometimes known the mossy appearance of the bud to run out and go back to its original type of a Damask rose.

All the moss roses are very fragrant; in fact, there are none smell sweeter, except perhaps their progenitor, which I think is the Damask. I will close my description of the moss roses by mentioning one other, which is the most mossy of them all, for even the leaf stalks are quite mossy, and the buds are so thickly covered with the mossy appearance, that on that account they frequently will not expand their flowers—it is called Jenny Lind Moss. It is quite scarce. In fact, all of the moss roses are beautiful, and their names are legion, but those I have enumerated are among the oldest and, I think, the best and most distinct. They are all difficult of propagation, with one exception, namely, the Princess Adelaide. The best way to increase them is by the process of budding or layering, to obtain them upon their own roots, or by allowing them to sucker, and thus increasing them, for many or all of them propagate very freely in this way.

A Remarkable Hyacinth.—A very remarkable hyacinth was recently shown at the Crystal Palace, London. The bulb, of the Norma variety, although only a trifle larger than usual, produced ten spikes of fair size, was furnished with well-developed "bells," one hundred and seventy in the aggregate, an average of seventeen for each, and formed altogether a large and beautiful bouquet.

Gardening.

Evergreen Hedges.

BY JOSIAH HOOPES.

THE *Hemlock*, perhaps, combines more excellencies for this purpose than any plant that is sufficiently hardy to withstand the climate of the Middle States. In addition to its color and compactness of growth, there is a peculiar grace in its slender twigs and small leaves which admirably fit it for hedging purposes. Next in point of beauty we should select the *Siberian Arbor Vitæ*, a tree of slow growth, yet so dark in color, and dense in growth as to make it a valuable plant for the ornamental hedge. It is so hardy that our northern gardeners need entertain no fears in relation to its success with them.

We have seen a carefully grown hedge of the *Norway Fir*, or more properly, *Spruce*, than which nothing could be much superior. It bears the pruning shears so patiently, and thickens up so densely, that the sides, with careful management, will soon resemble a green wall, in which there is no opening.

The *American Arbor Vitæ* will stand hard usage with as much impunity as any evergreen in our list. It dislikes its roots, however, to become dry when out of the ground, and if thus neglected during the transplanting operation, it will not unfrequently die. When once established, however, it needs only to be trimmed each season, and nothing excepting a remarkably dry winter, or the ravages of the "basket worm," will mar its beauty. This species is emphatically the economical ornamental hedge plant of America; cheap, easily preserved, and suited to most soils and situations. As a screen for unsightly objects, it will run up tall and slim, thus taking but little space, whilst performing the same duties as its more spreading companions.

The *White Pine* answers a good purpose when properly cared for, and, strange to say, will form a compact, dense mass of foliage, filled with short twigs, if sheared frequently and judiciously. But the white pine is subject to a blight which seems to baffle all inquirers, and when planted in a hedge, should a plant go off occasionally here and there, the beauty of the whole will be marred past all recovery.

It may seem premature to mention a new plant in this connection, but the Japanese *Retinispora obtusa* appears admirably adapted for an ornamental hedge. Its growth and general appearance is so similar to the Arbor Vitæ, that so soon as the plants can be procured at reasonable prices, we predict they will be used extensively for this purpose. Already an enthusiastic horticulturist near Boston has tested the Retinispora for two or three seasons with flattering success, and we believe with age it will increase in beauty.

For the west, the common *Red Cedar* has been recommended, but at the east it is usually worthless, owing to the unfortunate habit of losing the lower limbs; or at least the foliage thereon, which is equivalent. This is to be regretted, as the habit of the tree, and its dark green color, suggest so many features of excellence.

The other members of the Juniper family are no better, as they will persist in shedding their leaves near the ground.

The *Holly* (American) will in time make a good hedge, defensive as well as ornamental, but it has too many faults to recommend. It moves badly, is of exceedingly slow growth, and is too costly: the last being the result of the two others. Still it can be coaxed into something like obedience with untiring patience and perseverance on the part of the enthusiast, who deems nothing too difficult when striving to obtain his ends.

We have seen a very prettily trimmed screen of the *European Silver Fir* in the vicinity of Philadelphia, but we can by no means recommend this plant for the purpose; being tender, prone to lose its lower limbs, and not suited to all soils, yet it is exceedingly handsome with all its faults, as the foliage is of the deepest tint of green, and glistens as if neatly varnished.

The *White Cedar* did well as a hedge plant on the grounds of the late William Reid, at Elizabeth, N. J., but at other points it proved

a failure, showing conclusively that it is affected more or less by the nature of the soil and climate. The specimen, however, alluded to was as perfect a hedge as one could possibly desire, healthy in color, compact in structure, and trimmed with the greatest care; indeed in the very large collection of trial hedges this appeared to be the favorite over all competitors.

We do not recollect to have seen the *Tree Box* and its numerous varieties mentioned for hedging, and yet they are well adapted for the purpose. The general impression that they are of very slow growth is unfortunately too true, but if cultivated generously, and manure scattered over the surface of the soil close to the plants it will make a wonderful difference. The Chinese varieties grow more rapidly than the others, have larger leaves, and are more preferable for hedging; but the *Golden Variegated Tree Box* cannot well be surpassed when free from insects and disease. As a matter of course they stand the shears with impunity.

Some planters wonder why they never have any "luck" with the nice young seedlings removed from the woods and set at once in the hedgerow. They entirely overlook all the circumstances connected with their plants when growing in their native haunts.

Nursery-grown plants only can be relied on for the purpose, and these rarely fail under kind treatment.

The seedlings of two or three years of age require to be cut back severely, planted thickly in light mellow soil, and shaded for the first year. After standing in this nursery-bed for two years, they may be removed to their final destination. But even when thus treated, they are inferior to the plants usually sold by conscientious nurserymen, which are usually transplanted two and even three times, thus insuring a mass of fibrous roots.

After planting, the only trimming necessary to perform is to top the taller plants, and to cut back any side limbs that extend beyond their neighbors. But in succeeding years the hedge may be brought into its final shape, which should never have a flat top to catch the snow; this may do for England, but not for America.

About the Newer Pelargoniums.

BY ANDREW S. FULLER.

A FEW years since when the florists of England began to talk so enthusiastically about their new *Zonale Pelargoniums*, I confess to have thought their sanity was becoming slightly "questionable," else novelties in plants were very scarce. There were doubtless many others in this country somewhat of the same mind, from the fact that the new *Zonales* and kindred varieties made rather slow progress among us for several years, probably because we had become surfeited with the old sorts of scarlet or fish geraniums which are the parents of some of our later and much admired novelties. But true merit will usually assert its place, in the estimation of the masses, no matter what its parentage may be, as it has done in this very old but recently rejuvenated genus of plants.

The florists of England have taken the lead in the production of new sorts, and they may also have a slight advantage of us in making bedding out displays in summer, owing to a more favorable climate for this purpose, but what we lose in summer is more than made up in winter. The hot, dry weather during July and August is rather severe on the more brilliant-leaved varieties, but in winter our almost cloudless skies for days and weeks together, even in the coldest weather, insures a healthy and vigorous growth of plants in the conservatory. If we choose to keep up the temperature of our houses to the growing and blooming point, no injurious results follow in the way of feeble growth, or what the gardeners term "drawn" plants, which would be the case in a less clear atmosphere. Taking this view of *Pelargonium* culture, we have only to divide them into two classes, one adapted to bedding out in summer, and the other for winter blooming or for a display of beautiful foliage. Those of the *Mrs. Pollock* and *Mountain of Snow* types are especially adapted for house culture, and of little value for bedding out purposes, except in some few localities and soils. These are mainly cultivated for their beautiful foliage, the flowers being of a second-

ary consideration, hence they neither come in competition, or in any manner approach upon the field occupied by the more vigorous growing and free-blooming sorts.

It is true there is no vacant unoccupied ground between the most brilliant *Zonale* and the plain green-leaved varieties, for it has all been filled up with splendid sorts, and many of the dark bronze *Zonales* are as vigorous growers and free bloomers as one could desire. But it is well to make a dividing line somewhere, therefore I would say put all the comparatively slow-growing handsome-leaved sorts together, and all the strong and vigorous, whether plain or colored. Then cultivate the one class with especial reference to the development of their flowers, and the other for the leaves. Both are equally desirable for house culture, and, for my own part, I value one as highly as the other, and I will admit that my former indifference to the claims of these plants has now become almost an enthusiasm in their favor.

The introduction of such brilliant-colored varieties as *Master Christine*, *Jean Sisley*, *Leonidas*, *Cham* and *Don Giovanni* are events in floriculture not to be overlooked by those who have an eye for dazzling productions. The double varieties are very showy, especially the bright-colored ones like *Triumph* and *Marie Lemoine*, besides being of a vigorous habit, even stronger than the single-flowered sorts. Among these, we are still in want of a good double white, and although *Aline Sisley* is a step in that direction, it falls far short of a pure white, such as found among the single varieties. But our florists are equal to the task of producing what is now a desideratum among the double sorts, and we shall probably not have long to wait for the pure white, or any other possible color in the genus. A few years since a scarlet geranium flower, an inch broad, would have been considered rather remarkable, but now with such sorts as *Father Ignatius*, a full two inches in diameter is not uncommon. The new shades of colors brought out are as remarkable as the increase in size and form. We have varieties with the loveliest shades of pink, salmon, rose, crimson, maroon, carmine, magenta, and in fact some which might be termed "indescribable queer color," for words would fail to convey any very distinct idea of the peculiar shade or combination or colors.

Perhaps one reason for speaking so enthusiastically in favor of the newer *Pelargoniums*, is that my own collection of a hundred or more sorts have made such a brilliant show during the present severe winter, and to-day (March 8th), while the snow is a foot deep upon the fields, the greenhouse is ablaze with these flowers.

Japan Maples.

BY S. B. PARSONS.

IN the article on "Maples," by Josiah Hoopes, in the last HORTICULTURIST, he describes, very correctly, the remarkable beauty of the Japan varieties. No description can surpass the reality of their charms. About their hardiness, I am somewhat at a loss to understand his opinion. In one part of the article he says, "I have every reason to believe they are not suited to our climate;" and elsewhere he says that some of the varieties "are exceedingly valuable for lawn planting." If the former is his opinion, I would call his attention to the full collection, which has grown luxuriantly for twelve years, in the garden of Mr. Hogg, at Astoria, and which many cultivators have admired.

In our own grounds, some eighty plants, four to five feet high, have been growing two years, and are thrifty beyond question. The adaptation of this family to our climate we think to be perfect.

Garden Notes from the Parsonage.

BY W. H. W.

AN amateur's garden of less than half an acre is rather a narrow premise from which to draw any very broad or positive horticultural conclusions. But yet as the experiences that are gathered, in common with pears, and grapes, and berries, even from such a spot, may be of some interest or help, I send you

a few notes from the lessons taught by my garden in 1874.

1. *Dwarf Pears.*—I notice that the wisdom of planting dwarf pears is still under discussion in the horticultural papers. My limited experience speaks most emphatically in favor of such trees. The largest, most productive trees in my garden are dwarfs. Or, perhaps, I ought rather to say they *were* dwarfs when planted. They were set so deeply (the point of inoculation about four inches below the surface), that they are now probably well rooted from the pear stock, and so practically standards. Some of them are six inches in diameter at the collar, and yield me annually about a barrel each of fine fruit. They are now about fifteen years old, and still as healthy and vigorous as any one could desire.

I have never had the least difficulty with dwarf pears dying, and I attribute my exemption from such disappointments to three things. In the first place I never buy such a tree *unless it has been budded low down near the root.* Such trees can be planted so deeply as to secure roots from the pear stock, without any danger of smothering the present root and killing the tree by planting too deeply. In the second place I always bury the whole of the quince and about four inches of the pear stock in the soil. This does not at all interfere with the early fruitfulness of the tree (which makes the dwarfs desirable), and gives such an opportunity for the formation of pear roots as will secure the permanency characteristic of standards. In the third place, I no more expect my trees to live and work without food than to do it myself. I aim to keep them well supplied with plant food in the form of compost, ashes, ground bone, etc. And they express their thanks in such health and vigor, and such abundant and luscious fruit as makes me more than satisfied.

2. *Grape Grafting.*—I have several times tried grafting the grape, but never had anything but laborious failures till this last season. I have attempted it in the fall and in the spring, cleft grafting and whip grafting, and the only result has been what might have been called disappointment, if I had really had any expectation of success. But last spring Hon. M. P. Wilder very kindly loaned me a little implement made on purpose for grafting the grape. It consists of two parallel saws with a chisel between them for sawing and cutting a smooth groove in the stock, and a knife with two parallel blades for cutting the cions to such a thickness as that they will fit tightly into the groove. By using this simple implement I had fine success in several instances. A couple of cions of Mr. Ricketts' new grape, the Secretary, made a growth of twenty-five or thirty feet, giving a most gratifying promise of fruit the coming season. Mr. Wilder, who has made much larger use of the implement than I, informs me that it has given him success in grape grafting at least nine times out of ten. I think it promises to prove a great benefit to the grape grower. But enough for the present.

Reading, Mass.

A Beautiful Evergreen.—The tourist who has climbed the long and steep ascent of Gray's Peak, in the Rocky Mountains, may have noticed the last appearance of arboreal growth as he neared the peak: Great old weather-beaten specimens, better able to withstand the terrific storms and intense cold of the locality, than any other tree in the vicinity. This is *Engelmann's Spruce*, named by Dr. Parry, the discoverer, *Abies Engelmanni.* It is not unlike the Menzies spruce in color, but yet it is even more beautiful than that species in its peculiar bluish glaucous tint. Experience for a few years past has taught us that, contrary to the most of our Rocky Mountain conifers, it is hardy and reliable at the East. Whether it will continue so for a series of years, remains to be seen; but it is being tested in a number of localities, many of which are trying to the half-hardy trees.

Bran for the Cabbage Worm.—A correspondent of the *New York Tribune* says that bran sprinkled on cabbages, immediately after the appearance of the yellow butterfly, is a sure way of getting rid of this pest of gardeners.

Fruit Culture.

Pippins.

BY S. J. PARKER, M.D.

I HAVE been a very self-wise amateur in fruits. As I grow older, the starch of my self-impudence is getting sadly rumpled out of decent order. No apple humbles my pride more than the Pippin family. I knew all about them twenty years ago: to-day I give up the contest, beaten. Yet let me say that the *Hixon* or *Magnolia* apple I regard as a "fall pippin." It is the largest of all the fall pippins I have any acquaintance with. Early in the season it is a greenish-yellow, with a silvery-white glance of light beneath the green skin. Later in the season it is yellow, and then changes into a dirty sallow yellow color. Exact pictures of it, taken at various periods of time, would lead one to think it several apples. It never is best in quality; yet is respectable, especially at the maturity, when the green and the white fade out into the purest yellow. The sallow yellow, and at last coppery yellow of its old age, is accompanied by a sickly taste. It is a fine bearer, especially on deep, dry rich loam soil; poor on gravels and clay. It is a great bearer, and overloads on certain deep rich soils.

The Newtown Pippin.—With all the esteem of the venerable past, I must say that its historic reputation is, to me, as I usually see it, its sole value. As usually grown, even by the best cultivators of middle New York, it is neither large, fair, nor attractive in appearance. Occasionally at a fair one sees almost a specimen of what its reputation has been, but that almost a dream of worthiness is sadly overthrown by the cart-load view of it, such that one, not knowing its name, would immediately send to the cider-mill, and not to his cellar or to the barrel for market. So whatever it may be by special culture, or has been, is of little moment; it is practically superannuated and abandoned.

The Fall Pippin.—I wish I knew which, out of thirty or forty rather inferior apples, ripening in the fall, this apple was. It can't be the dull yellow pippin that decays by October 10th, nor the fall winter pippin, which is passably fair and is edible in January and February. Nor is it the green pippin, ripe with Magnolia, December 1st. So all I can say is, that if you will tell me which John Smith you mean, then I will say how I like Mr. John Smith, and how he appears. But really, this is quite unnecessary, as all these various seedlings, perhaps fifty in number, ripening from Oct. 1st to March 1st—while many are quite excellent and ever will be valued—the most deserve to be dismissed as too crisp in flesh, too sour in acid, too small in size, or with other undesirable qualities. If any one has a large, fair, yellow pippin, ripe October 15th to December 1st, with red cheek or a blush on the cheek where the sun colored it, mealy, juicy, tender, easily cooked into a delicate yellowish apple sauce, and more or less acid, yet finely flavored when cooked with sugar, I advise him to call it the Fall Pippin, and cultivate it. If it is below this, then call it "a pippin," and abandon it.

The Golden Pippin.—This is distinct from all the fall pippins, yet is a fall pippin. It is a large apple, and so beautiful that I advise it to be cultivated, and shipped to Europe; for it is as easy to get a label cut in brass and used to mark with black paint on the barrels—"Newtown Pippin"—as it is to mark forty packages of butter selected from thirty different dairies—"Mr. Jones' dairy," No. 1, made May 10th to 14th; No. 2, May 14th to May 20th, and so on, even if all was made in October. This pippin is the glory of all the endless pippin family. It is often four inches in diameter, rarely less than two and a half inches; apt to be "water cored," or so juicy as to have its delicious sap ooze out between the soft, buttery yellow, loose granules of its golden flesh; beautiful pale gold color, and the prize of all fall apples, and it is edible October 10th; and on a dry shelf in a cellar or up stairs room, can be kept till January 20th. It is *the* pippin of all the pippins. No apple is a better type of an

apple, or chosen as quickly as this, out of a score of varieties.

It needs to be grafted on vigorous stocks, have a dry, loamy gravel soil, and a fair annual supply of manure, except in such soils as middle New York, where it takes care of itself. Mind you, reader, there are twenty so-called Golden Pippins, but yet only one real one, and this is at least sixty years old.

Estimating Profits in Fruit Culture.

BY A. S. FULLER.

GENERALLY speaking, the "good of a thing," in the estimation of our people, is sought in the profits to be derived therefrom. Horticulture is no exception to this rule, and especially do we see it displayed in fruit culture, for our people have not reached that place in æsthetics where indifference to the pecuniary results of each and every venture becomes a steady custom. Writers upon horticultural topics, knowing the power or charm of the word "profits" in influencing the masses to attempt fruit culture, have used it quite extensively, and probably with good effect, as a whole, although there are doubtless many persons who know from bitter experience that it is the name of results more common in imagination than in reality.

I prefer no charges, however, against those who may have been guilty of putting forth slightly exaggerated statements in regard to prospective profits to be derived from the culture of certain kinds of fruit, inasmuch as it is very difficult to otherwise command attention. Then, again, what might be true one year, may not be another, for markets vary in their demands upon producers. Besides, sharp competition breaks down prices just at a time when least expected. A few years since, very choice strawberries sold readily in New York city from twenty-five to fifty cents per quart at wholesale. But the wide dissemination of the requisite information in relation to the mode of production, with perhaps true statements in regard to the profits, induced hundreds to embark in the business, with the well known results of an overstocked market and low prices. The same is true in regard to all of the small fruits, including grapes; and if there is any one to blame, it is those who taught the people how to cultivate these fruits so successfully. Fifteen years ago, horticulturists were asked to urge the owners of land in the country to cultivate more fruits for market and home use, as a sanitary measure, if for no other; and they responded with such promptness and effect that it is to be feared that epulosity is becoming more common with the advocates of a fruit diet, than the want of a healthful sufficiency. But with all the changes and occasional glutting of the markets, there is really no very discouraging obstacle in the way of a fair remuneration for labor and capital invested in fruit culture. An overstocked market one year, with corresponding low prices, is sure to drive many producers out of the field, thereby giving those who remain a better chance.

It is usually the vacillating in any business or profession who are most likely to fail, and probably in no calling has it been more apparent than in fruit culture. The really cheap and easily produced kinds, like the berries, will be always more or less affected by periodical fluctuations; but the larger kinds, such as apples, pears, peaches and plums, requiring more time to produce the trees, must necessarily be less subject to such changes. The novice in fruit culture, in starting out, could scarcely do better than to look over its past history before making any very sanguine estimates in regard to profits. What has been done, may be done again under like conditions, and failures as well as successes in the past may have been produced from the same causes which will produce similar results in the future. It is well to know what they are, in order to guard against surprises.

Tree Planting in Iowa.

BY SUEL FOSTER.

AT our annual State horticultural meeting, held at Burlington in January, our secretary, J. L. Budd, gave an interesting report of tree planting on "Arbor Day," which we

had set for the 20th of April. Premiums were offered in various ways for timber, shade, ornamental and evergreens, notice given in the papers throughout the State, a general interest aroused in the work. But unfortunately, a very unfavorable day appeared on the 20th of April. It rained in the southern part of the State, and snowed in the North, and frost not all out of the ground in some places. Notwithstanding, a great deal of tree planting was done, mostly after Arbor Day.

This year similar premiums are offered, amounting in the aggregate to nearly $300; but the Arbor Day is repealed, and all are recommended to set all the trees they can when time and opportunity is found for the work. The direction for planting for timber is, to set very close, so that the trees will make a tall growth. Three by four feet is recommended. Circulars are issued and sent broadcast over the State, giving directions for saving seeds, germinating and planting. This, with the premiums, will call attention to the subject, and our State will be improved by it.

The climatic influence of trees is not yet settled. My own opinion is, that their first, best and greatest influence is to stop a portion of the wind. How this conclusion is forced upon us when we go from the bleak winter winds into a grove or a wood of evergreens! Humanity to man and beast demands our attention in this work. I would most earnestly recommend to every one whose buildings, orchards and fields are exposed to the winter winds, to plant trees for their defense, *and do it the coming spring*, not only to protect us in winter from these *polar blasts* (of which we have had some sad experience this winter), but for summer protection against the wind. It has been demonstrated on our Iowa farms, that the field crops are considerably better for wind-breaks. The wind dashes the crops about, lays them flat on the ground, or slits the leaves into shreds; besides, it takes the moisture from the blade and stalk, and from the soil. Witness the wet plowed land and muddy roads, how fast they dry on a windy day. Evergreens are far the best to plant about the house, garden and orchard. The best deciduous trees for timber and windbreak are White Ash, European Larch, Soft Maple, Black Walnut, Honey Locust, Black Cherry.

There is one drawback: the trees will be in the way of the hedge. A large tree must not be within a rod of the hedge, and then it will be necessary to cut the tree-roots on the side of the hedge occasionally.

Besides the premiums offered by our horticultural society, the agricultural society has offered $1,000 for the best grove to be planted within ten years, offered some three or four years ago. And the legislature of our State passed a law, abating taxes for those who would plant trees. So you see we appreciate tree planting in this prairie country.

The Hyde Apple, or sometimes the Columbia Hyde.

BY WM. H. YEOMANS.

THIS apple, which originated in Columbia, has a very limited reputation, and has never been described. It is supposed to be a seedling, and first came to notice about half a century ago, and, possessing good qualities, the farms in the vicinity were provided with this variety of fruit by means of grafting. As no special efforts were made to bring it into notice, its reputation has extended scarcely beyond the limits of the town.

The tree is a vigorous grower, upright, with a tendency to limber branches; and in the case of trees having age, with proper pruning, the top is open, adapted to the introduction of heat and light, and withal is a prolific bearer.

The fruit is of good size; color dull red on a green ground, cha..ging to yellowish when ripening, with splashes of deeper red; sometimes, when exposed to the sun, becoming bright crimson and beautifully shaded; form oblate, even; stalk very short, set deep in the cavity, which is broad and even; basin broad, inclined to be plaited, and of moderate depth; calyx medium; fruit hard, but very crisp and tender when matured; flavor acid; flesh white; core small, filled with seeds; quality good; season late autumn and early winter.

As this apple was first brought to notice upon a farm of which the owner's name was Hyde, it took that name, or sometimes the "Granny Hyde;" and as another section of our county put out another apple under the name of Hyde (which bears a strong resemblance to Hubbardston's Nonesuch, if they are not identical), the first named also attached the name of the town, as above, as a mark of distinction. In this vicinity, where it is known, it is considered much better than many varieties having a more enviable reputation. A large quantity tested by the Columbia Farmers' Club were pronounced excellent.

Columbia, Conn.

Seedling Grape from the Raisin.

BY WM. H. YEOMANS.

SOME three or four years ago, Mr. H. T. Bolles, of Rockville, Conn., to satisfy a little curiosity, and determine what the result would be, planted some Malaga raisin seeds. He had heard it stated that the seeds would not germinate, but in his trial a single one came up, and presented a vigorous appearance. The little vine was well cared for in a pot the first year, but giving so full evidence of hardiness and remarkable vigor, was cut back and put in the ground by the side of a building, receiving a southern exposure. The vine, through the season, presented unusual vigor, and made a very strong growth. It was properly pruned and cared for, and has grown remarkably stout. The past season the vine fruited, and an exhibition of the same was made at the Agricultural Fair of Tolland county, Conn., was tested by many, and by all very much admired.

The bunches are medium in size, and compact, not shouldered; the fruit is also medium in size, a little larger than the Delaware, but hardly as large as the most fully developed Dianas; the form is nearly round; color white, or slightly tinged with pink, almost transparent, with a very rich bloom; flavor peculiarly foxy, and very sweet and rich; skin very thin. The period of ripening is September. From the alleged hardiness of the vine, the early maturity of the fruit, and the rich promise of excellent quality of fruit, this will undoubtedly prove a valuable acquisition to the grape family.

Columbia, Conn.

Fruits for a Small Garden.

BY WM. F. BASSETT.

IN the December No. of the HORTICULTURIST, A. S. Fuller makes some excellent suggestions on this subject, but alludes to the Wilson Early Blackberry in such a manner that many will infer that it is a first-class fruit for family use, which I think it is not. It is true, it is large and very productive when well cared for, but as far as I have heard opinions expressed, at least nine out of ten do not consider it fit to eat when they can get good Lawtons and Dorchesters.

The Lawton, *when allowed to remain on the plants till fully ripe*, is not excelled by any variety I ever tried, unless it be the Kittatinny. This remark applies to the Lawton when grown in a warm climate; only as far north as Massachusetts it is entirely even when it does not winterkill. The Kittatinny is my favorite blackberry when in perfection; but although I have seen as good ones here as among its native hills in Sussex county, yet it does not generally give very good satisfaction our sandy soils.

Hammonton, N. J.

The Giffard Pear.—We do not think the *Giffard* pear receives as much attention as it is entitled to, says the *Germantown Telegraph*. It is of good size, handsome form, ripens directly after the Tyson, is very much in appearance like it, and is nearly equal in flavor to that admirable pear. One thing especially in its favor is, that the tree is a free grower, and comes into bearing in about four years, and in this has a great advantage over the Tyson, which is slow in fruiting. We have a tree which, in four years after setting out, bore a full crop of perfect fruit. This desirable variety is to be found in most of our public nurseries.

Window Gardening.

Begonias.

I HAVE of late taken a great fancy for Begonias, and will give a few remarks on that class of plants for this number. Begonias are grown by some for their flowers, by others for the foliage. They are so numerous in their varieties, and so different in their habits, that it is but right we should classify them in some manner, to be able to distinguish which the amateur should prefer. Hence I here place all the varieties under four classes: 1st, the tall or tree-growing; 2d, the low or ornamental; 3d, the running; and 4th, the tuberous.

Of the first class we have many varieties, all of which, with few exceptions, are grown for their flowers, which hang, drooping like small hearts; while in class second the flowers are borne on strong stems, large and open. Foremost among those of class first we place B. Saundersonii, cherry pink; B. Weltoniensis, pink; B. Weltoniensis alba, white; B. Hybrida multiflora, rosy pink; B. Richardsonii, new, white; B. Odorata, white; B. Fuchsioides, scarlet; B. Nigricans, pink. We have here eight varieties that are as good, if not the best, that can be selected out of a list of thirty kinds. There are still a great many varieties of class one that are grown for their foliage. As a sample we might name B. Argyrostigma—the Pheasant-spotted Begonia, as it is sometimes called. Its leaves are very long and narrow, of a dark green color, spotted with white; flowers pale yellow. B. Parnelli, new, has its foliage spotted very much like the former variety, only the leaves are more round, and of a paler green. B. foliosa might well come in here as a very neat and handsome plant. This variety has a fern-like appearance, so desirable among plants. Its small leaves, produced in great abundance, droop very much in the fashion of a graceful adiantum, while for its flowers we have to seek way down under the leaves. Too humble to aspire after the sunlight, like its gaudy neighbor B. Rex, they content themselves in peeping out from among their leafy bower. B. Palmettifolia resembles in miniature the tree from which it takes its name; a very pretty variety for a general collection.

Of the second class there are so many beautiful varieties, that it is impossible to choose a few without slighting others. I will here take eight kinds, and will leave others to choose as their peculiar fancies may dictate. B. Rex stands at the head of the list, with its great broad leaves, spreading majestically over all its kind. This variety has a broad green margin, running round the outer edge of the leaf, a deeper ring of white and a narrow ring of green at the stem. B. Smaragdina, quite the opposite of the former, contents itself in sending small leaves, of a rich velvety green, three or four inches above the pot. B. Isis has a peculiar metallic look about it, that makes it a favorite at sight, and the under portion of the leaf is crimson. B. Robt. Buist has a very pretty green leaf, the markings of which are very distinct; B. Dœdalia, a green leaf, mottled with black. B. Leopardii is much like B. Rex, save that the white centre is broader, with a green edging spotted with white. B. Majestic, similar to B. Leopardii, with exception of white spots, is by far the best variety for easy culture I have named. Last, but not least, is a seedling raised by myself some three years past, and named after one of our florists, B. Thomas Fairley. I may be pardoned if I say this variety suits me better than any I have ever cultivated. It grows better, blooms more freely, and then the markings are so beautiful—first a narrow belt of green, then a broader one of white, then a still broader blotch of green. Although I have called the first class the *flowering*, yet I hesitate to say which of these two give the most flowers. Certainly the flowers of these are the finest, largest and prettiest.

Of the third class I only cultivate one variety, B. glaucophylla scandens, a creeping variety, with large panicles of orange salmon flowers and dark green foliage, used mostly for hanging baskets, where it delights to ramble, making one of the most beautiful plants for the purpose under cultivation.

In the fourth class I am not so well versed, not having "kept up with the times." B. tuberosa has a pale green leaf, the under side brilliant crimson, and flowers of pale pink, produced in great profusion in the fall. B. Sutherlandii, one of the new varieties, is very pretty, having yellow flowers, and, like all of its class, blooming profusely.

Begonias are of easy culture, delighting in free, rich, sandy loam, at certain seasons requiring very little water, only they must never be allowed to get completely dry. The first and third classes are propagated from cuttings; the second from cuttings, or in the more general way of taking a leaf, breaking the ribs or veins, and placing it lightly on the sand-bed, so that the broken parts touch the sand. In two or three weeks (or less, according to the heat), young plants will shoot up from every broken vein. Those of the fourth class are increased from tubers, formed either at the root or on the stem of the plant. When young plants are to be grown, they should be started into growth early in spring, and freely encouraged to action. Pot small plants into light earth; give plenty of heat and moisture. They delight in a quiet corner, where there is not much sun, yet they should not be placed in the shade. As the spring advances, give them more room; keep the atmosphere moist, and continue to repot as the plants may require. In summer I generally keep mine in the cool greenhouse, after giving the glass a coat of whitewash, so the powerful rays of the sun will not burn the leaves. As winter approaches, gradually slacken the supply of water, and toward December those of class two will commence to send out flower buds; and to any one who has taken the trouble to care for these during the year, he will be more than compensated with a glorious show of flowers, that resemble white wax coated with crystal. Strange that plants so easy of culture, requiring so little care, are not brought into better perfection! We very seldom see a *specimen*, and yet I have seen B. Rex, one year old, grown by Alex. Frazier (at Wm. T. Walters', Esq.), with leaves measuring fourteen inches in diameter, and three to four feet in circumference. To grow such a plant requires no scientific knowledge; there is no *great* secret. Simply give the plant attention, good earth, plenty of drainage, light, not forgetting its fondness for a humid atmosphere, and room for the fibrous roots to seek out the good things contained in the flower-pot.—*A. B. in Am. Farmer.*

Two Good Winter-Blooming Plants.

(The Cyclamen and Chinese Primrose.)

I DO not know of any two plants that, for ease of culture, neatness of habit, and freedom and beauty of bloom, can compare with the plants above named—*Cyclamen Persicum* and *Primula sinensis* of botanists. Through the continued and persevering efforts of florists, we have them of all shades, from the purest white to the deepest crimson. We have also double primroses, red and white, and single ones, beautifully fringed, and the petals overlapping one another, so as to form almost a perfect circle. The foliage of the primrose is not unlike some varieties of geranium, of a rich green, and slightly hairy or downy.

The foliage of the cyclamen is so beautiful that it would be worth cultivating for the beauty of its leaves alone. These are of a rich dark green, mottled with lighter green, and pearly white stripes and blotches, and differing much with different plants. The under side of the leaf is light red. The temperature that suits them best is from 50 to 60 degrees, but they are not hurt if the thermometer runs down to 35 degrees. They also prefer a shady situation to one in the full sun, though a couple of hours' sun may be of advantage. I have had the same primrose in bloom for over three months, and the cyclamen six weeks.

The soil for primroses should be one-half sandy loam and one-half well-rotted *cow manure*. The roots are very fine and hairy, and require open soil. The cyclamen, having strong, fleshy roots, do better with a stiffer soil, but it should be rich if you wish to see fine flowers and bright leaves. I always re-

commend good drainage, though many of the great horticultural lights of the day condemn drainage as useless. The bulbs of the cyclamen increase in size every year, and I have seen them over five inches in diameter. Such large bulbs will give from 50 to 100 blooms. As soon as the weather gets warm, the cyclamen may be set out in any shady place. It will lose its leaves when the hot weather comes on. It will again start into growth about September. The primrose is a little difficult to keep through the hot summer months, but as it seeds freely, this is not of so much moment. If they are put in a perfectly shady place, and just enough water given to keep them from wilting away, they will make fine plants for another winter, and bloom freely, although I think the individual bloom is not quite as large as with young plants. Seeds of both cyclamen and primrose should be sown the last of August. The primrose will bloom the same year; the cyclamen takes from one to two years, but the bulbs will last for a dozen years. There are many varieties of the cyclamen, but the *Persicum* is the only one I can recommend for winter bloom. Of course the plants must be kept clear of dust and insects. —*Cedar Mount in Am. Farmer.*

Treatment of Oleanders.

A VIRGINIA lady wants to know what to do with her oleander, which has become so large as to be troublesome. The best plan we can suggest is, to plant it out-doors this spring. It will make a grand growth, and bloom during summer, and next fall let it die. Previous to the coming of frost, however, say about Sept. 1st, take cuttings of the half-ripe wood, about four inches long. Now prepare a compost, two-thirds sand, one-third woods mould. Fill three-inch pots with this, and insert the cuttings. Put the pots in a close, shaded frame or greenhouse, and keep well watered. When cold weather sets in, keep them in a cool greenhouse, or some place where they will not be much excited by artificial heat. By February, most of them will show flower buds. Now put them (still in the poor, sandy soil) near the glass in a warm greenhouse or bay window. To save watering, a dozen of these little pots can be plunged in moss in a shallow box. When the new growth starts out around the flower-buds, pinch it out, so that all growth can be concentrated in the buds. If properly handled, by April each little plant will be a bouquet of bloom. In summer, these plants can be planted out to make growth for more cuttings in autumn. Those who wish large plants, can keep them cut down as bushy as they may wish, as the oleander pushes readily when cut back. We prefer the little plants. Oleanders generally do not bloom as well as they would, because the young shoots around the blossom bud are allowed to grow to the injury of the bloom. Pinch them out.—*Am. Farmer.*

Smilax.—Will you please tell me, at an early day, how to plant and manage smilax seed so as to obtain the best result? What kind of soil, whether it needs the sun, what time of year, etc.; in fact the minute details of its culture, and how long it takes to get a good, vigorous vine for winter decoration. I have read of its growing yards and yards, but have never seen anything of the kind with my friends that have it, so I have concluded there is something wrong in its management.

Mrs. C. H. SCARBOROUGH.

Answer.—Sow the smilax seed in March, and grow it on fast in good, rich soil, in full sun. Give plenty of water, and syringe well to keep away red spider, if required during winter. Cut it down in August; it will then give good, strong shoots, but the best results are obtained the second year. We have shoots with this treatment, grown in boxes, in a temperature of 50 degrees at night, about six yards in length.

Lilium purpureum.—This beautiful new lily has been introduced into England from California, where it excites much attention. Its flowers are said to vary in color from a purple to a purple lilac. It is the first time it has been offered for sale, and believed to be very fragrant, and the finest of all the Californian lilies.

Editor's Portfolio.

Disappearance of the Oak.

Oak timber is rapidly disappearing from Europe, although half of the area of Sweden, one-fourth that of Norway, one-sixth that of Switzerland, and 780,000 square miles in European Russia are said to be yet in forest. The consumption of oak in France has doubled during the last fifty years. She requires 15,000,000 cubic feet yearly for wine casks alone, 750,000 cubic feet for building purposes, 600,000 cubic feet for her fleet, and 150,000 cubic feet for railway cars. £800,000 worth of staves were imported in 1826; £5,000,000 worth are now needed. Since losing Alsace and Lorraine, France contains 150,000,000 acres; 20,000,000 of this surface is covered with forest. In Norway the Administration of Forests declares that it is necessary to stop the cutting of timber. Holland and Belgium are nearly denuded of timber, and are large importers. North Germany is rich in forest, but within half a century has begun to cut down young trees. Austria has sold her forests since railways have been introduced. In Italy no forests remain. Spain and Greece are almost woodless. The southern coasts of the Mediterranean are almost forestless. Wood, for all purposes of construction, is becoming scarcer and dearer in all parts of the United States yearly. In the Dominion of Canada it is yet abundant, though rather farther to seek.

Peas Three Thousand Years Old.

In the course of late explorations in the ancient ruins of Egypt, Gen. Anderson, an English traveler, found, inclosed in a sarcophagus beside a mummy, a few dry peas, which he preserved carefully, and on his return to Great Britain, planted in the rich soil of the island of Guernsey. The seeds germinated, and soon two little plants appeared, from which, at maturity, sufficient peas were gathered to plant quite a large tract of ground in the following season. Some of the plants thus raised have attained a height of over six feet, and have been loaded with blossoms of exquisite oder, and of a delicate rose tint. The peculiar feature of the growth is the stem, which is so small near the root but increases greatly in size as it ascends requiring a support to sustain it upright. The pods, instead of being distributed around all portions of the stem, as in the ordinary plant, are grouped about the upper extremity. The vegetable, it is said, belongs to the ordinary garden variety; but from its presenting the very distinctive difference above noted, it seems worthy of close botanical observation. The peas are of remarkably fine flavor, excelling in delicacy those of the choicest known varieties.

The Pottery Tree.

Among the many vegetable products of Brazil the pottery tree of Para is not the least worthy of note. This tree, the *Moquilea utilis* of botanists, attains a height of 100 feet, up to the lowest branches. The stem is very slender, seldom much exceeding one foot in diameter at the base. The wood is very hard, and contains a very large amount of silica—not so much, however, as the bark, which is largely employed as a source of silica in the manufacture of pottery. In preparing the bark for the potter's use it is first burned, and the residue is then pulverized and mixed with clay in varying proportions. With an equal quantity of the two ingredients a superior quality of ware is produced. It is very durable, and will bear almost any amount of heat. The natives employ it for all manner of culinary purposes. When fresh, the bark cuts like soft sandstone, and the presence of the silex may be readily ascertained by grinding a piece of bark between the teeth. When dry it is generally brittle, though sometimes hard to break. After being burned, if of good quality, it cannot be broken up between the fingers, a pestle and mortar being required to crush it.—*Engineer.*

New Textile Plant.

The plant known in North America as the wood-nettle, was discovered some years since on the Alleghany Mountains, at an altitude of more than 5,000 feet above the sea level. Some living specimens which M. Roezel, the

discoverer, took home, were disposed of to the Prussian minister of agriculture, who was desirous of ascertaining the value of the plant under cultivation. The results so far appear to be favorable, and the laportea pustulata as a textile plant is now occupying much attention in Germany. Being a perennial, the laportea does not require to be sown every year, and in this respect has some advantage over hemp and flax; besides which, it is said to be far less troublesome and less expensive than hemp in the preparation of its fibres. In the wild state it grows from 2 to 3 feet high, but as grown at Berlin it has already reached a higher stature, which, it is probable, will be still more extended by careful cultivation in suitable soil. The experiments which as yet, to a limited extent only, have been made as to the quality of the fibre, tend to the conclusion that it will form a valuable addition to our textile materials.

Importation of European Pine Seeds.

While traveling in Saxony recently, Mr. Ryerson, of Muskegon, Mich., found a species of pine called *tanne*, which is more durable than our American pine, and which is successfully transplanted in that country. He has sent home seed enough of this wood to sow 500 acres, and the experiment will be tried next spring at his farm near Bridgeton.

Irrigation.

M. B. Bateham says, in the *Ohio Farmer*, that in his opinion irrigation will double the strawberry crop as an average in Ohio, and he recommends it where water can be easily drawn from a higher head. We have seen strawberries nearly doubled in size in forty-eight hours by irrigation.

The Eucalyptus.

The *Revue des Deux Mondes* of 31st Jan. contains an interesting paper by M. Planchon, on *Eucalyptus globulus*. The subject is treated from the botanical, economical and medical points of view. The Eucalyptus is known to combine an iron texture with rapidity of growth. Some estimates have lately been made with reference to its value as a forest tree in Algeria. According to M. Cordier, if 1,000 of the trees were planted closely together, there might be cut down in 5 years 500 of them, worth 600 frs.; in 10 years 250, worth 1,323 frs.; in 15 years 125, worth 1,473 frs.; in 20 years 60, worth 1,521 frs.; and in 26 years 60, worth 3,195 frs.

Sleep and Odor of Flowers.

Sir John Lubbock, in speaking before the British Association concerning the fertilization of flowers by insects, said:

Everybody, however, has observed that even in fine weather certain flowers close at particular hours. This habit of going to sleep is surely very curious. Why should flowers do so? In animals we can understand it—they are tired and want rest. But why should flowers do so? Why should some flowers do so, and not others? Moreover, different flowers keep different hours.

The daisy opens at sunrise and closes at sunset, whence its name, day's eye; the dandelion (*leontodon taraxacum*) opens at 7 and closes at 5; *arenaria rubra* is open from 9 to 3; ear hawkweed (*hieracium pilosella*) is said to wake at 8 and go to sleep at 2; the scarlet pimpernel (*anagallis arvensis*) to wake at 7 and close soon after 2; while *trogopogon pratensis* opens at 4 in the morning, and closes just before 12, whence its English name, "John-go-to-bed-at-noon." Farmer boys in some parts are said to regulate their dinner hour by it. Other flowers, on the contrary, open in the evening. Now it is obvious that flowers which are fertilized by night-flying insects would derive no advantage from being open by day. On the other hand, those which are fertilized by bees would gain nothing by being open at night—nay, it would be a distinct disadvantage, because it would render them liable to be robbed of their honey and pollen by insects which were not capable of fertilizing them. He believed, then, that the closing of flowers had reference to the habits of insects. He observed also, in support of this, that wind-fertilized flowers never sleep; that some of those flowers which attract insects by smell, emit their scent at particular hours. Thus, *vespris matronalis* and *lyckins veapertina* smell in the evening, and *orchis bipolia* is particularly sweet at night.

He had been, he said, good-humoredly accused of attacking the busy little bee, because he had attempted to show that it does not possess all the high qualities which have been popularly and poetically ascribed to it. But if scientific observations do not altogether support the intellectual eminence which has been ascribed to bees, they have made known to us in the economy of the hive many various peculiarities which no poet had ever dreamt of, and have shown that bees and other insects have an importance, as regards flowers, which had been previously unsuspected. To these we owe the beauties of our gardens, the sweetness of our fields. To them flowers owe their scent and color—nay, their very existence in its present form.

Not only have their brilliant colors, the sweet scent and the honey of flowers been gradually developed by unconscious selection of insects, but the very arrangement of the colors, the circular bands and radiating lines, the form, size and position of the petals, the arrangement of the stamens and pistil are all arranged with reference to the visits of insects, and in such a manner as to insure the grand object which renders these visits necessary.

In conclusion he observed that while he had attempted to point out relations which exist between insects and some of our common wild flowers, the whole subject is one which will repay most careful attention, for, as Muller has very truly said, there is no single species, the whole history of which is yet by any means thoroughly known to us.

Corrections—Botanical Names.

A slight error in March frontispiece, whereby a botanical name is made to read Welbia instead of Welfia, is an occasion for us to explain that, as our journal is printed 150 miles away from our office, and compositors often in hurry of putting to press, by mistaking one letter for another, or possibly not noticing some slight correction, botanical names occasionally become misprinted. Of course the editor knows better, and is mortified; still leaks happen which foresight does not always prevent. The expectation of readers that any journal may or must be perfect, reminds us very much of an association of eminent English divines, who gathered together to search the Bible thoroughly, and expunge any possible errors or misprints. When their work was done, they offered a reward of £10 to any one detecting a flaw. In walked one day a gentleman in no way connected with literary matters, who pointed out an important error on the *title-page itself*.

The Horticulturist—Complimentary.

I have been a subscriber for THE HORTICULTURIST from the first number, edited by the lamented Downing. At times the magazine fell short of the mark, and I was tempted to discontinue it, but held on in hope of better things. Under your management it has regained its old prestige. The articles are short, pointed and full of the information most needed by your readers. I wish you the largest success for 1875. ROBT. W. STEELE.

Dayton, O.

American Pomological Society—Complimentary.

The following notice was recently given in an address before the Norfolk, Va., Horticultural Society:

"The American Pomological Society is the only organization known to me that is untainted with sectional, political or pecuniary interest. It is regarded throughout the world as a perfectly impartial tribunal in its decisions of adaptability of each State to the culture of the various kinds of fruits. Embracing, as it does, the most brilliant pomological lights of the country, many of which are brightened by a half century's experience, and extending not only through the entire territory of the United States, but joined by kindred spirits from the Canadas, it becomes the only reliable guide for the immigant seeking a fruit section."

Hovey's Pear Orchard, Cambridge, Mass.

The orchard consists of about 2,000 trees, not planted in orchard style, but in the borders of rectangles. The trees stand close to each other, in many cases not more than six feet apart, with dwarfs and standards generally alternating. A good many of the latter have become standards since planting, yet not so generally as those in the orchard of President Wilder. Some of those not rooted from

the pear are quite loose, and lean more or less, but bear fruit in spite of these defects. A part of the orchard (on the east side) has not had much care given it for a year or two, as the land has become more valuable for building purposes than for pear culture, and grass has been allowed to grow about the trees. It is not improbable, indeed, that this will soon be the fate of the whole orchard, as no possible success in the quantity or quality of fruit can long justify its growth in the midst of a city where land is worth several thousand dollars per acre. But there is every indication of one more great crop, every tree being full of the promise of fruitfulness.

Mr. Hovey began planting in 1841. The number of varieties has been reduced from 600 to about 200. In importations and changes to test new varieties the firm have spent some $25,000, the public getting a large share of the benefit. Those who decry "book-farming" and amateur work in fruit culture, would do well to tell us how *they* would know what varieties are best to plant or to avoid without the expensive experience of such enthusiasts. The mistake of planting a few hundred worthless trees with high sounding names, would ruin the ordinary grower in many cases, but, enlightened by these sometimes ridiculed "amateur" tests, they have comparatively fair sailing. Among the very best of early pears, Mr. Hovey recommends the "Boston," two fine rows of which he pointed out to me, and of which he produced 140 bushels in 1871. He first found this fruit in the Boston market in 1839, unnamed and unknown, and after some difficulty found it had been grown by a Deacon Abbott, near Hartford, Ct. Nothing was known of it except that it was *there*, and was a good pear. Mr. H. procured scions of it, grew them fourteen years before disseminating the tree, and then put it out as the "Boston," when other parties soon after called it the "Pinneo." He regards it as superior to the Bartlett in quality, though smaller in size. In its bearing habit it is something like the Baldwin apple, bearing every other year, though most pears bear annual crops.

The Sheldon Mr. Hovey esteems very highly. St. Michel Archange he also regarded very favorably. The Belle Lucrative is fine for eating, but lacks the color to make it readily salable. (I beg to remark of this pear that in Vineland its color at maturity is all that the most fastidious epicure can ask, and its quality is equal to its color. Indeed, it is difficult to name a pear which here in superb quality, and fruitfulness on the quince, can surpass the Belle Lucrative.) The great mass of foreign varieties Mr. H. finds to be worthless in America, and only about six American varieties will succeed on the quince. The pear needs little pruning during its mature years—this care should be given it while young. Low training is best at first, as then the trees become well established, and if desirable they can be trained high afterwards. The pear, without pruning at all, will make a tree of great size, but such are not desirable. The standard has the peculiarity of being without many fibrous roots, and yet, with only long and straggling roots, holds its position with great firmness and tenacity. The cultivation in Mr. Hovey's orchard is mainly done by hand. All the trees were trained to the pyramidal form at first, but grafting, re-planting, the necessity for passing between the borders with carts and wagons, etc., have resulted in the removal of most of the lower limbs. In general, there is a greater absence of limbs on the side next the wagon paths than on the other, and hence the orchard, as a whole, in connection also with the numerous grafts growing, cannot be said to be very symmetrical, or a perfect model in the shape of the trees, and the laying out of the grounds as an orchard merely. This cannot be expected where the testing of new varieties is regarded as of more importance than the growing of a few bushels of fruit, about the merits or demerits of which there is no question. But the Messrs. Hovey, nevertheless, grow large crops of fruit. Last year they had about nine hundred bushels; this year, so abundant is the promise, they think it may easily reach twelve hundred bushels if no casualties interfere.

In flowers the Hoveys evidently do a large

business, as their greenhouses are numerous, well filled, and extensive. Just now they are brilliant with bloom. On one part of the grounds is a plantation of rhododendrons surrounded by an Arbor Vitæ screen some fifteen feet in height, and about ten years old. The value of this little rhododendron plantation is something almost startling to one unfamiliar with the great popularity of these flowering shrubs. There are perhaps a thousand of them, grown from seed cultivated from 15 to 20 years, and selling now at from $15 to $25 each—perhaps $20,000 worth of rhododendrons on half an acre or so of land!—*Cor. Country Gentleman.*

Gardening in Scotland.

A letter from Malcolm Dunn, gardener to Duke of Buccleugh, Dalkeith, Scotland, addressed to John Grieves, Esq., of this city, contains some interesting gossip, of which we quote a few paragraphs, by courtesy of Mr. G.:

"I have a good many fine orchids in flower, especially the Vandas and *Angræcum sesquipedale.* I had twenty-five flowers of the latter on one plant, the greatest number ever seen. The camellias are literally a *blaze* of flowers.

"I send you a few eyes of a new vine just let out, called *Venus' Black Muscat*, said to be a real Black Muscat, and to do exceedingly well in a *Hamburgh vinery*, that is, a *moderately* warm vinery. I enclose two packets of geranium seed, saved by Messrs. Veitch from the finest collection of these plants in this country. The canned fruit sent came in first-rate condition; the fruit is beautifully preserved. I told the Duchess of B. about it also, and have sent her a can of each sort to try. The 'big folk' think as much of these things when sent from a distant country, as we do. It gives them *something to talk about.*

"The *apples* sent are really splendid in every respect, and we are enjoying them as a very great treat. To-day I took samples of each sort of the apples to the Duke and Duchess, who were highly pleased. The Duke is very fond of good apples. The fruit is first-rate, and the canned fruit is the very best that my sister and I ever tasted."

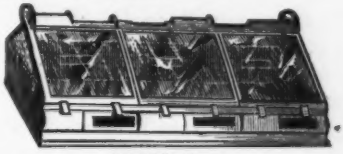
New Garden Implements.

Among the many new inventions for the farm and garden, exhibited at the fair of the American Institute, in October last, we were interested in Musgrove's propagating frames and hand-glasses, patented Feb. 2d, 1875. We append a description of them, believing our readers will be interested to learn of an article containing so many points of excellence. The inventor claims (and we see no reason to dispute it) that, by using the hand-glass, many kinds of vegetables can be brought to market several weeks earlier than by methods now in use.

18x18. Height 15 in.

This is a square frame, and can be used for forcing melons, squash, cucumbers, early strawberries, tender annuals, bulbous roots, etc.

This frame is designed for tomatoes, egg plants, cauliflower, cabbage, etc. By the use of this frame, the plants named can be set in the ground as soon as the frost is out of the soil. On warm days, air can be given by sliding the glass on the top or at the sides; or the plants can be gradually hardened by removing the frame in the middle of the day. If a cool night threatens, it would be well to cover with old matting or carpet. By using these frames, plants can be grown fifteen inches high and well matured by the time it would be safe to set plants out by the old method. The frames can be kept in use at least seven months in the year, and will pay their cost the first season.



24x18 inches.

This is a propagating frame or permanent hot-bed in a small way. It is heated by a kerosene lamp, or gas and hot water, so as to have a moist bottom heat. This frame is well

adapted for an amateur or florist for striking hard-wooded plants, or growing tender seeds. All of these frames are made of zinc, and are strong and durable; no putty or paint is used. The glasses are made to slide so as to give air when needed. If glass should by accident become broken, it can easily be put in, requiring no skill to do so.

The Wardian case is for ferns, etc. The glasses on the sides are arranged so as to slide, enabling one to water the plants without disturbing the case. The top also slides off to admit air. These are handsomely japanned, and are a great improvement on anything of the kind ever before offered. There are four sizes of these cases.

The window boxes are designed for placing pots in, or may be filled with soil, and the plants bedded in. These are made in several different lengths, and ornamented in an assortment of colors and patterns. A sample fernery has been sent to us by the manufacturers, Musgrove & Son, 350 West 41st street, New York city, and possibly others will be as well pleased to learn of these as we were.

The Howell Pear.

The *N. Y. Tribune* makes the following note about this capital family sort:

THE HOWELL PEAR PRAISED.—Whenever our seedling pears, "to the manor born," succeed well with us, it is a real pleasure to recommend them, and such is beyond a doubt the record of the Howell, a variety with few enemies, but hosts of friends. It is a "New England Yankee" by birth, but a thorough American by education, as it is now well known and appreciated all over our country. Its merits, however, are perhaps more generally understood in Southern Illinois than anywhere else, as hundreds of trees of this variety are to-day bearing fruit, and paying their owners as handsome a per cent on the investment as any other variety in that section. It does exceedingly well at the East, too, embracing that great essential to popularity—early bearing, one of the merits belonging to the Bartlett. A tree of the Howell in full bearing is a sight worth going some distance to look upon. The large fruit, distributed evenly over the tree, with a beautiful yellow ground, heightened by a rich, ruddy red cheek, leave nothing to be desired excepting a luscious, melting, juicy flesh, and all this it claims as well. It reminds me more of the old White Doyenne in its ancient dress than any variety of modern introduction. It has been said that it is addicted to the blight, but I believe the weight of testimony will be rather the other way. JOSIAH HOOPES.

Chester Co., Penn.

Correction.

In an article in February No., by A. Veitch, Xanthophyll was wrongly printed with a Z. Of course readers know that all such typographical errors are accidental, and not those of ignorance.

Novel Cure for Blight.

Von Hulle, a Belgian horticulturist, states that they grow nasturtions in their apple orchards and let them climb up the trees to keep off the American blight. Also, tomatoes are planted among the grape vines to keep off wasps; it is said that they do so effectually.

A Good Law.

Japanese law requires that when a person cuts down a tree, he shall at once plant another in its place. In this way the supply of wood is kept up.

Meeting of American Pomological Society.

The next meeting of the American Pomological Society has been definitely fixed for September 8, 9 and 10, at Chicago, Ill. The official announcement will soon be issued by Pres. Wilder.

Numbers Wanted.

Copies of HORTICULTURIST for August and December, 1874, are wanted to complete sets. We will pay twenty-five cents each for them.